WHAT IS CLAIMED IS:

     1.   An apparatus for simulating and monitoring a respiration pattern of a human, comprising:

     a reservoir having an outlet;

     an actuator disposed in the reservoir for moving fluid in and out of the reservoir; and

     a control unit electrically coupled to the actuator for controlling the actuator t simulate a respiration pattern of a human.

     2.   The apparatus of claim 1, wherein the reservoir has a pair of cylinders connected in parallel by a conduit.

     3.   The apparatus of claim 1, wherein the actuator includes a piston disposed in the reservoir.

     4.   The apparatus of claim 1, further including a valve in fluid communication with the outlet of the reservoir, the valve being configured to control a flow rate of the fluid to and from the reservoir.

     5.   The apparatus of claim 1, wherein the control unit including a waveform generation device for generating a waveform defining the respiration pattern.

     6.   The apparatus of claim 5, wherein the control unit controls the actuator based on the waveform to simulate the respiration pattern.

     7.   The apparatus of claim 6, wherein the waveform generation device generates the waveform based on human respiratory charact ristics.

8.   The apparatus of claim 7, wherein the human respiratory characteristics are prestored in the control unit.

9.   The apparatus of claim 7, wherein the human respiratory characteristics may be inputted to simulate a desired respiration pattern.

10.   The apparatus of claim 1, further including a pressure transducer in fluid communication with the reservoir and electrically coupled to the control unit.

11.   The apparatus of claim 10, wherein the control unit monitors the respiration pattern through the pressure transducer.

12.   The apparatus of claim 11, wherein the control unit includes a data acquisition module to store the monitored respiration pattern.

13.   A method for simulating and monitoring a respiration pattern of a human, comprising the steps of:

generating a waveform defining the respiration pattern; and

controlling an actuator to move fluid in and out of a reservoir based on th waveform.

14.   The method of claim 13, wherein the waveform is generat d based on human respiratory characteristics.

15.   The method of claim 14, further comprising the step of inputting the human respiratory characteristics.

16.   The method of claim 14, further comprising the step of storing the human respiratory characteristics.

17.   The method of claim 14, further comprising the step of modifying the human respiratory characteristics.

18.   The method of claim 13, further comprising the step of monitoring the respiration pattern by a pressure transducer.

19.   The method of claim 17, further comprising the step of storing the monitored respiration pattern.